Christopher R. Kinsinger

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Objective Seeking a teaching or research position computational chemist.

Education

1999 – 2004 **Ph. D.**, Chemistry **University of Minnesota** Minneapolis, MN
- Thesis: "Computational Studies of Model Complexes of Copper-Containing Metalloenzymes"

1995 – 1999 **B. S.**, Chemistry **Wheaton College** Wheaton, IL
- Magna Cum Laude

Research Experience

2004-Present *Postdoctoral Research Associate,* **National Institute of Standards & Technology**
- Investigated peptide fragmentation mechanisms in order to improve protein identification via tandem mass spectrometry
- Developed molecular mechanics method for optimizing gas-phase, protonated peptide structure

1999-2004 *Graduate Research Assistant,* **University of Minnesota**
- Computed potential energy surfaces of copper-catalyzed phenol oxidations
- Studied structure and bonding of bimetallic bis-μ-oxo compounds
- Collaborated with a synthetic inorganic research group in order to elucidate the nature of copper-superoxo bonding in a galactose oxidase model complex

1999 *Research Aide,* **Argonne National Laboratory**
- Synthesized and tested water-gas shift catalysts for use in a reforming mechanism for fuel cells
- Characterized successful catalysts with chemical vapor deposition

1998-1999 *Research Aide,* **United States Department of Agriculture**
- Analyzed tissue samples using mass spectrometry to determine metabolic pathways

1997 *Summer Research Intern,* **Wheaton College**
- Synthesized and characterized substituted pyrrolidinones

Computational Experience

- Programming Languages: PERL, HTML
- Operating Systems: UNIX, LINUX, Microsoft, Macintosh
- Computational Chemistry packages: ChemOffice, GAUSSIAN, JAGUAR, MACROMODEL, CHARMM

Teaching Experience

2002-2003 *Co-taught graduate courses with Chris Cramer*
- courses: Reaction Mechanisms and Computational Chemistry
- gave 12 lectures, graded homework and exams, evaluated presentations, set up website

2001-2002 *Teaching Intern for Honors General Chemistry*
- gave 15 lectures, graded exams, wrote exam questions
- prepared and performed demonstrations.

2000-2001 *Teaching assistant for Quantum Mechanics I and II (graduate course)*
- graded homework

1999-2001 *Teaching assistant for Honors General Chemistry*
- supervised labs, graded exams, graded labs, graded group poster presentations, led review sessions

1997-1999 *Teaching assistant in Wheaton College Chemistry Department*
- Led weekly review sessions for Physical Chemistry

- Graded homework and lab reports
- Co-supervised labs for Organic Chemistry

LEADERSHIP EXPERIENCE

2005-2006 *Organizing Committee*, Peptide Fragmentation Meeting
2005-2006 *Organized Group Meeting for Computational Chemistry Group*
2005-2006 *Organized Ion-Fragmentation Interest Group*
2002-2003 *Student Seminar Committee,* **University of Minnesota**
- Planned all facets of hosting a distinguished guest lecturer

2001-2003 *League Commissioner,* **University of Minnesota**
- Served as commissioner of the intramural graduate student softball league
- Managed a successful softball team of graduate students

1997-1999 *Member of the Dean's Advisory Committee*, **Wheaton College,** Wheaton, IL
- Advised dean on non-academic affairs

1997-1998 *PACE Ministry Coordinator,* **Wheaton College/Cook County Jail,** Chicago, IL
- Led collegiate volunteers in tutoring inmates

AWARDS AND HONORS

- National Research Council Research Associateship, 2004
- University of Minnesota Department of Chemistry Teaching Intern Award, 2001
- University of Minnesota Department of Chemistry Graduate Student Fellowship, 1999
- American Scientific Affiliation Award, 1999
- Wheaton College Alumni Award, 1998
- Bernard Nelson Award for Organic Chemistry, 1997

PROFESSIONAL MEMBERSHIPS

- Proteome Society, 2005-Present
- American Chemical Society, 2003-Present
- American Scientific Affiliation, 1999-2002

SHORT COURSES AND WORKSHOPS

- NIST Workshop on Mass Spectrometry, Gaithersburg, MD, Sept. 16, 2005.
- CHARMM: A Program for Macromolecular Simulation, Instructor: Brooks, Bethesda, MD, Oct. 2005 – Feb. 2006.

PUBLICATIONS

- Kinsinger, C. R., Gherman, B. F., Gagliardi, L., Cramer, C. J. "How Useful Are Vibrational Frequencies of Isotopomeric O_2 Fragments for Assessing Local Symmetry? Some Simple Systems and the Vexing Case of a Galactose Oxidase Model." *Journal of Biological Inorganic Chemistry*. **2005,** (in press).
- Kinsinger, C. R. *Computational Studies of Model Complexes of Copper-Containing Metalloenzymes*. **2004.** University of Minnesota: Minneapolis, MN.
- Aboelella, N. W., York, J. T., Reynolds, A. M., Fujita, K., Kinsinger, C. R., Cramer, C. J., Rjordan, C. G., Tolman, W. B. "Mixed Metal Bis(μ-oxo) Complexes with $[CuM(\mu\text{-}O)_2]^{n+}$ (M = Ni(III) or Pd (II) Cores." *Chem. Comm.* **2004,** *2004*, 1716.
- Cramer, C. J.; Kinsinger, C. R.; Pak, Y. "Mechanism of Intramolecular C-H Bond Activation in $[(LCu)_2(\mu\text{-}O)_2]^{2+}$ (L=1,4,7-trialkyl-1,4,7-triazacyclononane): Quantum Mechanical/Molecular Mechanical Modeling," *J. Mol. Struct.: (Theochem)* **2003,** *632*, 111.
- Seierstad, M.; Kinsinger, C. R.; Cramer, C. J. "Design Optimization of 1,3-Diphospha-2,4-diboretane Diradicals." *Angew. Chem., Int. Ed. Engl.* **2002,** *41*, 3894.

- Sherer, E. C.; Kinsinger, C. R.; Kormos, B. L.; Thompson, J. D.; Cramer, C. J. "Electronic Structure and Bonding in Hexacoordinate Silyl-Palladium Complexes," *Angew. Chem., Int. Ed. Engl.* **2002,** *41*, 1953.
- Cramer, C. J.; Kormos, B. L.; Winget, P.; Audette, V. M.; Beebe, J. M.; Brauer, C. S.; Burdick, W. R.; Cochran, E. W.; Eklov, B. L.; Giese, T. J.; Jun, Y.; Kesavan, L. S. D.; Kinsinger, C. R.; Minyaev, M. E.; Rajamani, R.; Salsbury, J. S.; Stubbs, J. M.; Surek, J. T.; Thompson, J. D.; Voelz, V. A.; Wick, C. D.; Zhang, L. "A Cooperative Molecular Modeling Exercise – The Hypersurface as Classroom," *J. Chem. Educ.* **2001,** *78*, 1202.

Meetings and Poster Presentations

- 4th Annual World Congress of the Human Proteome Organisation *Ab Initio Predictions of Peptide-Ion Fragmentation,* Kinsinger, C. R.; Irikura, K. K. Munich, Germany, Aug. 28-Sept. 1, 2005 (presenter).
- 230th American Chemical Society National Meeting, *A Force Field for Peptide Ions in the Gas Phase*, Kinsinger, C. R.; Irikura, K. I.; MacKerell, A. D. Washington, DC, Aug. 28 – Sept. 1, 2005.
- Proteomics Informatics Workshop, *Ab Initio Predictions of Peptide-Ion Fragmentation*, Kinsinger, C. R.; Irikura, K. K. Ann Arbor, MI, June 23-24, 2005 (presenter).
- 53rd American Society for Mass Spectrometry Conference on Mass Spectrometry, *Ab Initio Predictions of Peptide-Ion Fragmentation,* Kinsinger, C. R.; Irikura, K. K. San Antonio, TX, June 5-9, 2005 (presenter).
- U. S. Human Proteome Organization Symposium, Washington DC, Mar. 13-16, 2005 (delegate).
- Gordon Research Conference on Gaseous Ions: Structure, Energetics, and Reactions, *Computational Studies of Mechanisms of Peptide-Ion Fragmentation*, Kinsinger, C. R.; Irikura, K. I. Ventura, CA, Feb. 27-Mar. 4, 2005 (presenter).
- NIST Sigma Xi Postdoctoral Poster Symposium, *Computational Studies of Mechanisms of Peptide-Ion Fragmentation,* Kinsinger, C. R.; Irikura, K. I. Gaithersburg, MD, Feb. 24, 2005 (presenter).
- 226th American Chemical Society National Meeting, *Potential Energy Surface for Copper-Catalyzed Oxidations of Phenol*. Kinsinger, C. R., Cramer, C. J. New York, NY, September 7-11, 2003 (presenter).
- 225th American Chemical Society National Meeting, *Modified Pseudopotentials in Quantum Mechanical/Molecular Mechanical Calculations for Metallocene Catalysts*, Cramer, C. J.; Varner, M. E.; Kinsinger, C. R. New Orleans, LA, March 23-27, 2003 (co-author).
- 34th Midwest Theoretical Chemistry Conference, *Theoretical Insights into the Mechanism of Oxidative N-Dealkylation Reactions of Dicopper Complexes*, Kinsinger, C. R.; Cramer, C. J. Minneapolis, MN October 5-6, 2001 (presenter).
- 28th Reaction Mechanisms Conference, Madison, WI, June 24-29, 2000 (delegate).

References available upon request